U.S. ENVIRONMENTAL PROTECTION AGENCY'S

PUBLIC HEARING ON PROPOSED RADIATION STANDARDS

FOR YUCCA MOUNTAIN, NEVADA

Taken at Amargosa Valley Community Center
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Amargosa Valley, Nevada

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APPEARANCES:

For the EPA:

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ORAL STATEMENTS

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MR. PAGE: Good afternoon. My name is Steve Page and I want to welcome all of you to the public hearing on the proposed radiation protection standards for Yucca Mountain.

All of us at the table up here are from the EPA, and I'll be introducing folks in a minute. And before I get into the introductions and just give a brief summary of our proposal, I'm going to talk a little bit about ground rules for today's hearing. I wanted to say that we're very pleased to be here. We at the EPA -- this is one of the most important parts of the whole process of developing public policy, public regulations.

After the scientists have done their work, the economists, the geologists, and all others involved in a project like this, we think it's important to bring it to the community and find out what folks in the community feel about that to try as best we can to explain our proposal and mostly just to listen to you today. We will be listening to you. The design of this hearing is for us to hear from you.

But before getting into that, let me first introduce the panel. On your left, my right, is Frank Marcinowski, the Acting Director of the

Radiation Protection Division. I'm the director of that office. And, again, my name is Steve Page.

On my left is Mary Kruger who works with us. She's the director of the Federal Regulation Center. And on my far left and your right is Geoff Wilcox who is an attorney for EPA's General Counsel Office. Attorneys are very involved in helping us draft the regulations and making sure that we fulfill our responsibilities under the law. So that's why Geoff's here.

Let me give just a brief summary of what we're here to listen to today. And it is, as I said, our proposed standard. The genesis of that standard is back in 1992. Congress gave EPA the task of setting standards to protect public health and the environment from harmful exposure to the radioactive waste that may be disposed in the proposed underground repository at Yucca Mountain, Nevada. While we set the standards -- while EPA sets those standards, the Nuclear Regulatory Commission actually has the responsibility to ensure that the Department of Energy can demonstrate that the repository meets the standards.

Siting a repository at Yucca Mountain

raises many complex, technical, scientific, and policy issues. And for more than five years EPA has conducted extensive information-gathering activities and analyses to understand these issues. And our goal is to issue standards that are scientifically sound, that can be reasonably implemented, but above all, are protective of public health and the environment. Our proposed standards address all environmental pathways; air, water, and soil. We designed the proposed standards to protect the closest residents to the repository to a level of risk within the range that's considered acceptable for all other cancer-causing pollutants. The closest residents to the repository are currently located in Lathrop Wells. And this means that those farther away will be even more protected.

In addition, we're proposing to protect the ground water resources of Nevada. Because the proposed repository sits above an important groundwater aquifer, we are proposing that this valuable natural resource be protected to the same limit to which every other source of drinking water in this country is protected. We want to provide this protection, since the water is currently used for drinking, irrigation, and dairy cattle. In the future, this

resource could also supply water to many people in the surrounding areas.

This proposed regulation and these hearings are important milestones, as I said, in a series of steps to ensure the public is involved throughout the decision-making process. We're here today to listen to your views and concerns about our proposal. We're also seeking written comments on our proposed standard. And all written and oral comments will be carefully considered before we develop the final standards.

In terms of hearing procedures, we have something written out in a statement that you may have picked up from the back table, but what I propose is that we try to be a little bit more informal and operate in such a way that -- I don't know that we need -- usually with hearings where we have a lot of people come in, we'll have a light that after five minutes of speaking, it comes on telling you your time is up. What I would propose to do is ask everybody -- there are a significant number of folks here who want to say something. And out of consideration for your neighbors and colleagues, that we try to limit our comments to five to ten minutes. And if it's going over five to ten minutes, I'll

signal and ask you to wrap up. And after everybody has had a chance to speak, and then we can go back and circle back to folks who would like to talk longer. We're here until nine o'clock tonight, so we're here to listen to your statements, and we want to make sure we get the whole statement. But the purpose of the ten-minute rule is just to allow -- make sure that everybody has a chance. And for the people who have got to get back home and standing appointments, is that we make sure we do that.

The other thing is in terms of where we start today. We'll start with the speakers that actually signed prior to the hearing in response to the advertising we had in the papers and that kind of thing. And then after that, I will be drawing from a list that's from the back of the table where people signed in. And we do have a few of those folks. So right now I think we have about four or so people signed up, four or five people signed up. And then after that I'll just be asking for folks from the audience.

So, without any further hesitation and ceremony here, why don't we open the hearing. All of your comments are going to be on the record. You'll have a full transcript of the record after this is

over for people to examine. We'll have a full transcript of all the hearings.

Tomorrow we're in Las Vegas from twelve o'clock until, I guess, nine o'clock there. And then on Thursday morning we're there from nine a.m. to twelve o'clock. I'm interested in getting your comments.

And let's start off now with Sally Devlin.

MS. DEVLIN: I'm here. Can you hear me? I like Mary because she lifts the book that you sent me. The assessment was fourteen pounds. The EIS was eight, nine pounds, and this is five pounds. So, I'm just saying, I read these things by the pound.

My first question is on monitoring. Now, you were the first ones and the only ones after -- I'm going on my seventh year -- that talks about Carbon-14 and how it affects area roads, children with mental retardation, as well as human beings.

Now, of course, when you get into this stuff, and I have further testimony on what strontium does, what this one does, and so on, to the body organs. And I got into this with studying radiobiology. And the only thing that I have learned on the affects of these radioisotopes are at the end of every chapter they say, "We don't know."

Now, when I talk about comprehensive measuring of these doses, and I should know, I defended you at the NRC for the lower doses, I still feel that this is absolutely incomprehensible to the public and the relationship to the numbers that one and all use. This includes you, NRC, and so on, the DOE. And the problem is, it isn't just the dosage. And I will use an analogy. I did report for our NCI report on all the cancer found in each state. And it's broken down in fourteen categories and so on. Now, Nevada is in the top ten in women's breast cancer and women's lung cancer period. Everything that was bad in the entire history of the world was in the District of Columbia. They were in the number one or two in every other category. Now what does that mean? It means, to me, nothing.

Number one, as I explained at the NRC meeting is we don't have a coroner. Everybody in the county has the sheriff as the coroner. So everybody dies of coronary heart failure when the deputies go to their home. So it's totally inadequate reporting. They're not reported. So how do we get current statistics? You don't. And this must be corrected. Because we're talking about transporting through forty-three states. And,

therefore, if there is no proper monitoring, then who are the ten thousand that are going to die? And when we come upon statistics to the children, which again, I relate to the '97 report from NCI, National Cancer Institute, I found that the numbers for the children were staggering. You're only allowed 3.5 people to die of cancer or cancer deaths out of a million. Now it's down to a hundred thousand. And some think it's down to ten thousand. But with the children, it was twenty-two out of a thousand. And that was much too high. These are children from newborns to eighteen years old.

On the other side of the coin on cancer there is -- my study is, and this goes back to Hiroshima, and that is I'm dead and you're not and they don't know why.

And there's a third thing that you don't mention, and I think it's of major importance because this has affected our country deeply, and that is stress. I have friends in Three Mile Island, and they are still experiencing stress. How do you measure stress?

The other thing, of course, I have to bring up from all your wonderful studies is the concept of not only dosage, but what is in our actual

air. What is in the air here, 15 millirems. And we've got Carbon-14. That's 1.5 millirems. How does it get there? And the study said that you transported it. How does it get out of the canisters?

And, of course, I have to go to the microbic invasion, which is leaking canisters. And I want my feeling about all this categorically stated and on the record that the DOE has been doing this for years and has no repository design, no canister design, and no transportation.

And I am really hysterical with DOT [sic] because I confronted DOE with the delegation of liability. And they have a pot with five hundred and fifty million, which wouldn't build a casino in Las Vegas. So, to me, the responsibility has been delegated. Where it goes to, I don't know. But you're talking about forty-three states. Who are the people that are going to be affected by this radiation poisoning and how long is it going to take and so on.

And I am blessed in that I have a Canadian satellite and I get reports from Canada. And they're terrified of Chernobyl and what is going on there. And at the last conference, of course, there are

hundreds of thousands that are literally dying of stress, besides the kids from thyroid cancer and so on.

So we have to get into far more of this. And I delegated to you and -- where is he?

MR. PAGE: He's on his way.

MS. DEVLIN: Oh, I hope so, because he's my buddy. And I've been yelling at him for years. He gave me the information you saw. I'm the only one who got the book.

But these are the basic concerns, is the health. Forget about the safety, but the health. And how do you safely (inaudible) affect everybody? And you do not have that in your report. You mention them all, but you don't say anything about how each portion of the body is affected and so on. The only one you mention, which is the first time I've seen it, is the Carbon-14.

Now, my question, again, goes back to monitoring. And that is, God forbid that there should be a Yucca Mountain, and God forbid DOT should do the transport after their horrible record with the chemical industry, two hundred and fifty thousand plant accidents and two hundred and sixty thousand on the roads from 1987 to 1996, and they are not

indemnified, not even for five hundred and fifty million. So this is terrifying. If you're going to kill us, pay us.

But the most important thing is what is going to escape? Since they have no plan for the canister, and this horrifying thing with Augusta and other things that we're getting into on the metallurgy, and, of course, you will hear from others regarding the transportation here. We had a conference with INEL, and I said, "What transportation do you have?"

And they said, "Three major roads and railroad." And, of course, they said, "What do you got in the ground?"

And I said, "Nine hazard, which is the highest, 95 and the second highest, which is 160 and no railroad."

So what moved me -- they said, "Oh my God." Nobody knows that we have nothing here.

I just sent to Senator Reid a proposition for urgent emergency medicine for Nye County. And also since Nevada Bell has overcharged us 5.4 million, they can pay for the study, in my opinion. But it's up to Senator Reid. We have no help here any which way, really, no facilities.

And now with this test site at Nellis, Nellis Air Force Base and everything at Nellis, and I checked this out before I came, is mothballs. Years ago, thanks to Ken here, said two thousand people were good to go in an hour. Now there's nobody. So that's very scary, and especially without medical facilities. You couldn't get these people.

And the next thing, I brought you an article, and I've read all kinds of literature regarding research and development and who's going to do this stuff. I'm looking at you and you're young, and this is going to take years of litigation, twenty years, twenty-four years of transportation and what have you. Who's going to be capable of doing the scientific engineering and so on with our current education? So it's very questionable.

But we'll get back to my original topic, which was the monitoring. And that is -- I did a fountain poll on the six thousand (inaudible) test site and I'm two for the last low ground shot. How did they get there? Now, is there monitoring? From what I understand on the test site, there is none. This is not only security, but I feel that since you're talking picocuries, I'm going to talk picocuries. And the latest, and I hope you'll

forgive me for bringing your town in (inaudible) and that's two and a half picocuries per gram in the air. And a place like Plutonium Hill, that's like five hundred picocuries. So I'm hoping to explain my terminology to the audience because it took me years to learn it. But understand what I'm saying. Because being an entire test site is a death trap with over a thousand shocks. God knows what is out there. And I can assure you that they don't know.

And having been on the water committee and radiation committee, we saw something absolutely devastating. And they couldn't tell us what was in them, because if you knew, they couldn't build the bomb. We keep fighting for it. But all this stuff, we're talking classified. How can we design anything, build anything, transport anything if it's classified and the public doesn't know? So we're getting back into the monitoring. The equipment is available to clean up these things. This whole thing can be stopped, and it can be reprocessed and transmuted. You'll hear more about that.

But I think you have been remiss in the methodology to the exposure, and I'm talking about the machinery here. Because the test site is totally out of date. They don't look at the monitors and so

on. We have one in Pahrump. We have one here. They do not pick up these very small particulates of anything. So according to those machines the air is clear. That is not true at all.

And also I would like you to find out how we can get NRC to do correct statistics on this. We are completely locked out. We have no internet. We have no e-mail. We have no Federal Register, as you well know, and I've been telling you for years. We are deprived, but we don't have to be deprived.

But remember monitoring is not being done properly, and you are not getting the right numbers. So thank you for coming. We'll talk more later.

MR. PAGE: Thank you.

The next person that is signed up is Steve Frishman. And if you would make sure that you state the spelling of your name for the court reporter and the organization that you're representing, if you are representing an organization, that would be helpful.

MR. FRISHMAN: My name is Steve Frishman. I'm representing the Nevada Agency for Nuclear Projects.

At tomorrow's hearing, Bob Loux, the director of the agency will give a prepared statement. But what I wanted to do today was just

make a few comments for the record and provide the people here in Amargosa Valley the benefit of some of our thoughts in terms that will maybe relate more to them.

First of all, welcome to what the nuclear industry is selling in full page ads in other parts of the country as oppressively hot, bone dry, and uninhabited.

And, next, if you look out the back door, take a good look at Yucca Mountain. So this is the neighborhood you live in. Today certainly is not oppressively hot. You can look around. It's not bone dry. And I think if you look even closer, it's even not uninhabited.

This area was selected by an agency to impose itself on the community. And for almost more than twenty years, there's been studies going on for a project that represents an extreme risk to this valley. The people's expectations of safety of a repository have been heard and, at times, and heard, and for quite some time. What I mean by that is the people here have been assured by DOE manager after DOE manager and other representatives who are interested in the project going forward. They've been assured of the safety of the project. It came

in the meeting that was held here in Amargosa Valley a number of years ago that was essentially scoping for this rule or this proposed rule. It came as something of a shock to a number of people here when there was a discussion at the meeting of safety. And more than that, it became apparent that the people in the room suddenly realized that they were the critical group. Now, that didn't line up with the expectations of safety that they had been led to over the years.

When you speak about geologic repository, geologic isolation, isolation being the word that has a very distinct meaning in the original goal, the expectation is that when you deposit the waste in a repository underground, it'll stay that way. The people expected that that would be the case. And it was a question of whether all the conditions surrounding it were safe and whether it would stay there for as long as it needed to stay there, meaning, for its hazardous lifetime. What came as something of a surprise for people to find out, that when safety means regulatory terms relative to underground repositories is that the releases, therefore, the doses to individuals are no greater than what someone other than them determined was

acceptable. The expectations was that it would not leak.

If you look at the Yucca Mountain project as it's described today in the Environmental Impact Statement and other documents, it becomes clear in the simplest terms it is designed to leak. The only question is when will the leaks begin? Another question is how fast will the leaks occur? Another question is how fast or how soon will people in this valley begin to become exposed? That's not the people's conception of safety.

Now, you have a real responsibility with this rule, first of all, to make a convincing case that the rule is protective. Given the original understanding that it was to be isolated, and now the continuing understanding that the waste will not be isolated, your charge becomes more difficult. And I look at the proposed rule. I see that in the proposed rule you have even stepped away from isolation. The concept of isolation means it's safely put. And in the previous rule, yes, there were limits on releases and those limits were pretty stringent. There are no longer limits in the proposed rule. But what you have done is you've compromised the concept of isolation. You've

compromised it in the sense that you say, "Isolation means that the material will be contained as long as is reasonably possible." That's new. And what that brings into account is that what I see in your proposed rule is a redefinition of the concept of geologic disposal. And that redefinition shifts the concept of geologic disposal from the idea that you isolate it as well as you possibly can, meaning, the ideal is nothing gets out. Then, if anything gets out, it should be very little at a very, very low rate. Now the concept, as I see before it in the proposed rule, is one that says, "First of all we're going to put a time limit on what we look at in a regulatory sense." And that time limit is a very short one relative to the hazardous lifetime of the waste. But then on top of that, the regulation is going to allow not for very, very stringent limits on what could escape, but allow for mechanisms that say, "You must delay the release of the waste," but then you don't control the rate of the release. So it's not a matter of if the people in this area can expect to receive a dose, it's just a matter of when.

And this is stepping far, far away from the concept of geologic disposal. The original concept, as you well know, involved isolation. And

people's expectation of isolation was achievable. We have a site here where isolation is clearly not achievable in the geologic setting. We have a proposed repository that plans for containment in metal containers for as long as is reasonably possible. And then the containers fail and you have releases. And the ultimate in the regulation is, as I said before, just make sure that people here don't get a dose bigger than someone else says it's acceptable for them. It's a pretty uncomfortable situation.

And I think you need to be looking at some of the key factors; one of them being, as you mentioned, ground water. And I'm very pleased to see that you are continuing to propose that ground water standards be applied as part of this regulation. Another is that the dose is acceptable -- the acceptable doses should be as low as they can possibly be set. There is no reason for the people here to have to accept doses when they never invited the project in the first place. The project has been imposed on them. They have accepted it to the extent which they have at this point because for a long time they were misled by the safety, as I said. So the agencies should be striving for the lowest possible

dose with the idea that there be none at all.

The period of regulation should be reflective of the hazardous lifetime of the waste, rather than the expected lifetime of the container that it's in. They're total opposites, from my point of view.

If you are truly trying to regulate safety, what is the difference between regulating safety now or regulating safety when the safety is most needed, when you expect the peak doses.

Also, why would it be reasonable to say that Yucca Mountain is about eighteen to twenty miles that way, but we're not going to enforce the regulation until we get right here? Why would it be reasonable to set an eighteen mile buffer? Why would it be reasonable to set as one of your other alternatives a buffer zone of about twelve miles? In an analogous situation with the waste project in New Mexico you have a rule that, in essence or in substance, used to apply here. In that area, the distance from the waste to where the compliance must be accounted is three miles. There's absolutely no reason for any inconsistency. In an ideal situation, you shouldn't have to have a buffer at all because you would not expect the waste to leave where you put

it.

And I guess I only want to point out one other thing, and that's that I know, and many people know, that the reason you're here is because you were here a long time ago, and at the time it was considered to be reasonable. At the time it was considered to be implementable. And, at the time the Department of Energy said, "We can meet any standard and that standard is not a problem." Well, since that time, most people who examined Yucca Mountain and its waste isolation capabilities discovered that there was at least one aspect of that rule that could not be met by Yucca Mountain. You're here now not because Yucca Mountain was rejected, because it was known it wouldn't meet the safety standard. You're here now because Congress changed the rule, forced you to write a new rule that is reasonable, site specific, and the assumption being on their part, one which Yucca Mountain can pass. I believe that you have a responsibility to the people that is greater than that responsibility to those members of Congress who, in their wishful thinking, believed that the Environmental Protection Agency would write a rule that, ahead of the evaluation, would make Yucca Mountain an acceptable repository. I used to think

that, and in our written comments you'll see a lot we have to say about how to make it truly responsive to objective regulation. I think that's enough for now. And I appreciate your time. I'll have a lot more comments tomorrow.

MR. PAGE: Thank you. Appreciate it. Judy Treichel?

Again, just a reminder, please spell your name, and if you're representing an organization, please give that for the court reporter.

MS. TREICHEL: My name is Judy Treichel, T-r-e-i-c-h-e-l. I'm the Director of Nevada Nuclear Waste Task Force, and we're a nonprofit organization that works here in Nevada and is involved with nationwide public interest groups.

Yucca Mountain has always been sold to the people of Nevada by the Department of Energy as a place that would isolate and contain waste. People were assured here that if there was any doubt after studying the mountain that it could not achieve isolation, would not be absolutely safe, then the Department of Energy would walk away. And one of the things that was talked about was ground water travel, and that if it was ever found that water could reach the boundary of the repository within a

thousand years, even if it's nine hundred and ninety-nine years, "We'll just pack up and leave." Well, since that time, and people here in Amargosa Valley heard a lot of those presentations. There used to be a lot of frequent update meetings that the Department did, and they don't do that anymore. But we all heard those statements. And since that time, all the rules have changed, and you're part of one of the changing rules. And this new rule is being written because of the flurry of changes that started when Yucca Mountain began to look worse. There should be no releases. There should be a zero release. There should be a zero release at the door of the repository, and it should be for all of the lifetime that the waste is dangerous.

The proposal here is that there will be a 15 millirem standard which would equate to a three in ten thousand chance of a fatal cancer death. People here and people everywhere in Nevada or anywhere else should not be at risk for a fatal cancer death because they are a host to a repository for the benefit of the nuclear industry, and possibly the nation. But I think it's primarily the nuclear industry that benefits. There should be no releases.

The people who are here are here because they like clean air, clean water and a good place to live. They grow crops. They grow animals. It's quiet. It's beautiful. And they didn't start a noxious business or a dirty business in which they then decided they would throw garbage over there across that road, and then the EPA came in to see if the garbage was being handled correctly. That garbage is coming from somewhere else. And it's rather an insult when you're reading this new rule and you see roads listed and landmarks that people here are very familiar with listed as being boundaries for a buffer zone for radioactive releases. That doesn't happen in the places where the waste comes from. And it's very disconcerting, and I think it is an insult to the way of life here.

Last weekend, I'm not sure what happened out here, but in Las Vegas we felt a very strong earthquake. And this is a very seismically active area, and that seismic activity does unusual things over time. And ground water pathways can change. There was over -- or up to fifteen feet of displacements from that earthquake. That can make a big difference. And so pathways for water from Yucca Mountain coming down here could become much more

rapid. The DOE's estimate of dilution that they can expect, and everything could go right out the window because of this place.

And, finally, as I said, I believe that this is a site that is going to be doing a terrific favor for the nuclear industry. And it's already been described to you how the nuclear industry describes this area, but I know that they also believe that if a good tough standard is applied to Yucca Mountain, that, in their words, it could eliminate a perfectly good repository. Well, as far as I'm concerned, this would be like walking up to an airplane where one of the wings had fallen off, and outside of that wing on the ground, it's a perfectly good airplane. There is not a perfectly good repository at Yucca Mountain if, in fact, it has to depend upon dilution, if, in fact, there has to be a boundary that is set beyond the footprint, or, I suppose, at the very maximum, five kilometers. And there should be no releases. So I would urge you, certainly not to loosen up on the standard that you have proposed, and hopefully that you would make it even more strict. Thank you.

MR. PAGE: Thank you.

Bill Dewitt?

MR. DEWITT: I'll hold off and speak a little later on.

MR. PAGE: Okay. Next on the list is Lavonne Selback. Excuse me if I'm not pronouncing correctly.

MS. SELBACH: No problem.

My name is Lavonne Selbach. I'm with the conservation district, although I'm not necessarily representing them. But I am chairman of the Nye County Conservation District.

And basically what I'm here to tell you is a little bit of history of our valley. And one thing I wanted to call attention to when we started this is that I noticed in this EPA fact sheet that it says, "How will ground water be protected?" And then towards the bottom -- I know everybody can read the statement, but it says that this aquifer is currently providing water for drinking and irrigation, dairy cattle and, in the future, could supply water to many of the fast growing Las Vegas area. I just want to clarify to you that this water that is here will stay here. We have a lot of land here that needs to be developed, and it will be developed. And we will keep our water here. It is supposedly an over-allocated water district right now, and we are

not looking to have it transferred anywhere else. We have been fighting this for quite a long time. So far we've succeeded.

In regards to our history, since the 1870s there's been farming in Amargosa Valley; alfalfa, being a profitable crop, was grown, as well as corn, beans, cabbage, potatoes and other vegetables. Melons do very well in our valley. Fruit trees; peaches, pears, almonds, pistachios, walnuts were also raised for a while.

The railroad in 1907 had passenger service that replenished the kitchens with fresh fruits and vegetables at the ranches. But then the Act of 1919 enabled homesteads to be developed. The roads were widened, provided water to grow the crops, even the dairy which supplied Furnace Creek and the Amargosa Motel and Death Valley with milk and vegetables.

This act enabled people to claim three hundred and twenty acres. We had to drill the wells to see that there was enough water for three hundred and twenty acres. So at this point they basically gave it to us with our hard work. The hardships of developing the land in our community has all been for Amargosa resources. And they decided to take away our air, water rights, our way of life by

appropriating our water. And we started to fight. At the time we developed the property, there were no roads. We had to clear the lands and the way to get to our property. Electricity was not available. The roads were dug by diesel, and they had to be hauled. The living was true pioneer; no electricity to run the refrigerators, coolers, lights, radios, TV. Food was kept cool in a barrel covered by a wet sack. Luckily we had plenty of good water.

The children went to school, and when the school bus did start, they had to be up at five a.m. in the morning to catch that bus. Many times before the children went to school they had to help. It was the first thing they had to do when they got home from school. The generators ran a few hours a day so the washing, some cooking and the news could be listened to. A trip to Las Vegas was an event, miles of dirt roads and hours in hot cars, shopping and trying to get the food home before it spoiled. They had lights for the crops and would get hot and removed at nighttime because you couldn't touch them. And this is the late fifties and early sixties. The community worked together. We had impromptu dinners, ball games, just a community talking about what we wanted our future to be and

what we were working toward. They were true pioneers.

In 1963 electricity came to the valley, and did we celebrate. The roads paved, the schools, the community buildings, the library, the sheriff's office, the parks were eventually built. We had worked hard for our way of life. Our futures for our family and the next generation will be gone if the Yucca Mountain project is approved to be safe. How can they take away our futures in one big scoop? Our future is in the land here. We've withstood many problems and have solved them. If Yucca Mountain isn't safe, this is one problem we can't correct. If our water is polluted, we can't grow our crops and we can't raise our children and we don't have a future. And all of us here have worked hard for that future, and we want to make sure that everything is done properly and it's done safely.

And if there are minor problems which, in the future, might cause problems to our generations down the line, however minor they may be, I don't want to see the Yucca Mountain come in. But if they can prove that this isn't going to happen -- and I really haven't seen that done. I attended a lot of meetings, a lot of water meetings, a lot of hearings,

and I don't definitely see that that isn't going to happen.

Earthquakes, like happened the other night, somebody else made a remark, that was felt in Las Vegas, shook me out of my bed. It lasted for a long time. It rolled right up through this valley. I thought when I got on the news station that we weren't going to be hearing it. The last time it took a few minutes for them to come back on the air. I was really surprised it didn't do as much damage there.

And I thank you very much.

MR. PAGE: Thank you.

Mr. Ralph McCracken?

MR. McCRACKEN: Yes, I'm here.

I look out my bedroom window and I see Yucca Mountain. I'm that close to it. I'm probably, the way the crow flies, the most closely and directly affected farm in the valley. I want to compliment you folks for making your standard as stringent as it was.

We have a certain amount of background exposure. It's higher than many parts of the country. And my initial question is, "Why make it worse? Why allow it to be worse?" If you've got a

certain amount coming at you and you get more, it's going to be worse for you. Some people think because you have a certain amount of background, "Fine, we'll give them some more." It may not be statistically significant, but it's significant to us to create a certain amount of additional concern.

When your containers are transported, your truck drivers have a little badge that says they're only allowed to be exposed to the load for a certain amount of time. That tells me you're transporting leaky containers. Because if the containers completely contained it, you would not need your drivers to have a badge and have a limited amount of time to be exposed in that close proximity to the load. All right. So we got leaky containers. We've got leaky containers going to a leaky hill. This hill was not supposed to have water in it. It was one of the original criteria. Well, the guys who are working on the site characterization project found water in the hill. They found water percolating in the hill. When it rains, they get water in their tunnel. That's not dry.

Faults, yeah. This was supposed to be a nice solid hill, no faults. They found faults. There seems to be a continual changing of the

requirements of successful characterization to fit the hill. That doesn't sit well. And this area is characterized as rarely having earthquakes. Well, we had a good one the other day. I hope you guys are aware of it. I hope the people that are doing the characterization are very painfully aware of it and they dig deeper into their research as to seeing if this thing is actually going to hang together.

So what you're basically offering is no matter how well you attempt to oversee and regulate, there's leaky containers and a leaky hill, and expect us to survive this somehow. I read about the first half of the summary, your two books and so on. I hope that the intention with the summary was not to call it a draft summary in an effort to have a lot of people read it and then in the future when the final summary comes out say, "Oh, yeah, I read it. I know what's in there. They'll correct some typos and that'll be it." I hope that when the summary comes out and with all of its corrections that need to be made, that there is a piece on the cover that says there have been major changes or significant changes or something to generate enough interest that people who have read it once to read it again.

One glaring case in point, there is a map

on -- I think it's page S-28. Please don't hold me to the particular page. There's a nice little transport route from Jean to up this direction. And it looks like a great route if you don't know the area. If you do know the area, you know that Pahrump is significantly missing from that map, and the route goes right through Pahrump. This valley was characterized as being -- how did the sentence go -- the farming area was south of Amargosa Valley. Well, sorry, this town contains four hundred square miles, and the farming area is right in the middle of it. And this town is not the intersection of highway 95 and 373. This town goes all the way from north of Highway 95 down to the California state line, from the other side of 373, again, to the California state line, California being on the border.

I haven't finished reading. I haven't finished making my notes. I will be submitting written comments. And if the rest of it reads like I've read it so far, it needs to be rewritten.

Thank you.

MR. PAGE: Thank you.

E. von Tiesenhausen?

MR. TIESENHAUSEN: My name is Engelbrecht von Tiesenhausen. I'll get with you later.

I'm with Clark County, Nevada. We are one of the agencies of the government with the responsibility to look over the shoulders, so to speak, of the Yucca Mountain program. I have a short prepared statement that I'd like to read, and there will be handwritten statements, before the time limit expires.

The issue of the standards is important to all Nevadians, particularly those in Amargosa adjacent to the proposed Yucca Mountain repository. Water is a scarce resource and our needs are growing rapidly, and we need to be protective of water sources. The Amargosa Valley is totally dependent on the clean and potable water supply. We support the EPA's goals as the agency that regulates standards for water quality. Although there have been some debate of utilizing the Nuclear Regulatory Commission to set protection standards, we maintain that this will compromise the integrity of the process. This is EPA's responsibility, and they should continue to serve this function. The 15 millirem standard is appropriate as it is consistent with other standards that have been established for other facilities.

Since the problem is supposed to include the consideration of the critical group who will

utilize ground water [inaudible] aquifer that could be impacted by Yucca Mountain, it is also appropriate to incorporate the ground water standard that is consistent with the use of the water for domestic purposes.

Communities throughout the country that rely on ground water supplies and similarly protect it, we should protect no less for future generations. Although much of Nevada has low population, you should remember the phenomenal growth that has occurred in Southern Nevada over the past three or four decades. This growth will probably continue for a considerable time period. We should, therefore, not forget that the area adjacent to Yucca Mountain may include a greater population density in the future.

The EPA also needs to recall the synergies that occur from the products sold in this area, the Los Angeles market for milk includes Amargosa Valley. This further reinforces the interdependence of Southern Nevada with other regions.

We would also like to go on record expressing concern for other more short-term risks in the program. The risk from the transport of waste for the immediate future offers a greater potential

risk for Nevada citizens. We would like to further emphasize that the federal government should (inaudible) in considering risks from the Yucca Mountain program. Thank you.

MR. PAGE: Mr. Dewitt, are you ready now?

MR. DEWITT: Thank you very much for the opportunity to speak. My name is Bill Dewitt.

We are directly in what I would consider a portion of a range of Forty-mile Wash. Forty-mile Wash, as I'm sure you're probably aware of, goes right next to the repository site up there. When it floods up there, we get a call from the sheriff maybe a half-hour later. The water comes across our property as it does every four or five or six years. And so we are greatly concerned. And our concern is in regards to the quality of the water and being able to maintain that quality because it goes into the food chain which, I think, all of us eat. It goes to cows. And when we look at our alfalfa, it really is just an ice cream bar in process. Because it got from the cow and gets into dairy, and we all consume dairy products, at least most of us do. And so it's very important to maintain the safety of our food supply in this country, particularly out here in the west. And, as we mentioned in our previous statement

about the California market, and so it travels all along.

I just received this at the front table today. I note the date of publication is just last, I guess, August 27th of this year, just a little while ago. But I do, in just reading it over right now, I notice several things, and on the reference page of the MCL, your limits, and they were all as existed in 1975. Well, a lot has happened scientifically since 1975. And it gets more critical in looking at things and in evaluating risks. And, I think, from what I understand, your only function here, EPA's function, is to set a standard that would be acceptable for radioactive discharges from the facility, either in the water or the air.

Is that correct?

MR. PAGE: (Nods head affirmatively.)

MR. DEWITT: And so you can see why I'm here today. I'm concerned about anything that gets in the water. And I don't expect you to answer the question. I would pose the question that if radioactive materials were to be found in some of our wells out here above the ambient level or whatever the -- I guess you call it background levels -- what sort of action would the EPA take with the DOE as far

as either restricting their activity or holding back this project? Or once the project gets started, if there were found to be leaks that impacted this area, then, aside from having state limits, what would happen? What would be the bottom line? Are we going to be bought out and shipped somewhere else or what's the bottom line? That's really what I'm looking at.

So I will try to address some different questions. I assume we have a little more time. Like I say, I just received this today.

And thank you very much for coming to Amargosa Valley.

MR. PAGE: Thank you.

Not just for Mr. Dewitt's purpose, but also for everyone else, we will be accepting written comments up through -- the period runs through -- I think it's November 26th. So we'll be accepting written comments up through that period.

Those are all the speakers that we have that have signed up to speak. Let's turn now to the speakers from the audience who would like to -- those folks who haven't spoken yet who would like to make a comment.

Again, for those who came in a little

late, out of consideration to everybody here, we're trying to limit comments to five to ten minutes. And then since we're going to be here all afternoon and all evening, we're interested in everything that you have to say. But in your first round, if you could do five to ten minutes, and then if you didn't get to say all you wanted to, then you can come back and finish up.

Sir, we'll ask you to give the court reporter your name.

MR. MURPHY: My name is Mal Murphy, and I'm with the Regulatory and Licensing Department for the Nye County Nuclear Waste Repository Project office.

Les Bradshaw, the manager of our office -- I have his statement and I'm prepared to give it, but I'll hold off until this evening to do so.

As some of you, I think, are aware, the Nye County board meeting is in Pahrump today, and so obviously none of them or their seniors or department heads can be here this afternoon. But some of them would like to get here this evening. I just want to sort of put everybody on notice that we don't know at this point in time if that is even going to be possible.

Mr. Bradshaw may have to accompany the chairman to Las Vegas this evening. But this is important to them. They know it's very important. Not all of them, but some of them will try to make it here this evening. If not, we're still going to be prepared to deliver Nye County's points to you this evening.

I did want to make one point, though, and that is, I guess, I don't know whether I have to say I'm saddened or a little disappointed, perhaps, that the notice of the extension of this session into this evening was, perhaps, not as widely disseminated as was possible. Ralph McCracken just remarked to me that he left some very important work he was doing to get here to deliver his remarks because this is extremely important to him, not knowing that he would have the opportunity to do so again this evening. He was not aware of that. So, I guess, my only point is that the next time we run into this kind of situation, we'd like to make sure that the people in Nye County in Amargosa Valley get notified of evening sessions just like the people in Clark County in Las Vegas being notified of evening sessions.

But with that caveat, I'm going to hold off. Hopefully Mr. Bradshaw will be here this

evening. If not, I'll be prepared to deliver the remarks.

MR. PAGE: Thank you.

Next speaker.

MR. HUDOW: Hi. I'm Grant Hudow, H-u-d-o-w. And I'm with the ENRAP group founded by DOE and through UNLV over in Las Vegas. I'm a chemical engineer and I have nuclear engineering training and experience. One of the comments I have to make -- and I want to make sure that you understand that I'm not being critical of DOE or the contractors. As an engineer, I know that we have to have the basic fundamental problems out on the table before we bring the resources together to solve them. There are several things out, and I'll give you some examples, where the DOE does not have on staff the technical people that are handling the jobs that need to be done. And that's not that big of a problem, because they rely on contractors to provide that. But in talking to the contractors, specifically people with TRW, when I asked them why they are missing some of these technical fine points that I think are crucial to a successful operation, their answer is, "Well, there isn't anybody at DOE that understands that, so we can't talk about it

because they can't -- there's nobody that can relate to it. And, anyway, that's their problem." We have a buck passing situation there that NRC is looking into getting the information, and I hope that you will, too.

For example, the DOE for two years has been trying to find the Nelson limits. The Nelson limits predict catastrophic failure if the metallurgy isn't right on the canisters, for example, for Yucca Mountain. And in two years, the DOE couldn't find those at all, even though I knew there were DOE projects in about 1980 in Albuquerque. That project was shut down. There's no reference to it anyplace. And that, on the outside, looks like a cover-up that they made a mistake and they're hiding it. Actually, had they reported that, they could have done two things. They could have had the Nelson limits in the database so that they would know when they had future projects, they'd have some technical knowledge to work on. The other thing is that that was a missed opportunity to credit the public with giving them valuable input. If you want public involvement, that's the way to do it, is that, first of all, you have some help. Second of all, you listen. And, third of all, you repeat back to them that, "Hey, you

guys did a wonderful job. We changed this or we fixed that," or so forth. And so, again, I'm not being critical. I'm just saying, "Hey, we have a very serious problem." And it comes down to the DOE. Their predecessors did a brilliant good job of ending World War II, otherwise we'd probably all be speaking German. And they also did a brilliant job of ending the Cold War, or otherwise we might be speaking Russian or not speaking at all. And so those are some people that have some big wins in their background, and that's the kind of effort that we expect from them.

As far as other examples of this same Nelson limit problem, we just had the dry cask that split open up in Wisconsin. The Nelson limits predicted they would have split open in two to six months. Actually, they got caught because it split open after five years because somebody tried to weld them back together and the hydrogen that was released in there exploded. And so we don't know how long it was before they actually split open. That kind of thing happens in industry, too. I've seen people weld things back together a thousand times before somebody finally says, "Hey, wait a minute. Let's work with the metallurgy so we don't have to put up

with this anymore." And in Yucca Mountain where you have waste that has a nine hundred million year half-life and we're looking at several billion years before that thing is safe to dig into or walk around and so forth, I think that having something that will split up in two to six months is probably not what we want.

You mentioned that you'd like to protect ground water. The State of Nevada has a rule that I think should be adopted. No one in the State of Nevada is allowed to put any kind of radioactivity in the water period. And so the DOE has stated that they have a leaky mountain and that this radioactivity going in there is illegal in the State of Nevada. I think the EPA should adopt that same program.

We have another situation in this area that EPA needs to be made aware of. It doesn't have to do directly with Yucca Mountain yet. But it has to do with the procedures for monitoring the radiation in the area. We have in Pahrump a monitor that's right next to the community center. I was talking to the guy that runs it, and he laughed and said, "It's a waste of time. Never found any radioactivity ever." So, as Sally mentioned, that

all of our dirt around here has at least a half a picocurie of plutonium per gram in it. And while that may not be a problem, the instrument not being able to detect it is a problem. We have on the test site, the plutonium value, as Sally mentioned, has a five hundred picocuries of plutonium per gram. And so whenever the wind blows this way, we're breathing that. We're even breathing billions of particles of that material. And yet this guy with an instrument down there with a little probe has never detected that.

But I talked to Tony Hechanova who is the Ph.D. nuclear engineer from MIT, and he's a professor there at UNLV. He mentioned that you cannot detect plutonium unless you're looking for it. So, in other words, we need to have the samples of dust collected in those instruments and sent to a lab so that we can detect how much plutonium is in there. EPA regulations, as I understand them, require that any concentration of two and a half picocuries per gram of plutonium must be remediated immediately. And yet we have several square miles of the test site out there where those are in violation.

When we first started studying that area,

the DOE came up with a way of looking at it. They said, "Well, the plutonium is vanishing far quicker than you would expect from it being reduced by the half life." And that's it. Maybe we'll never have to deal with it. If you consider that being blown all over the area, that's not good and probably why the EPA has rules as to when they have two and a half picocuries per gram that it must be remediated immediately.

As I understand it, Congress, a few years ago passed a law saying that the government facilities also had to follow that rule. So what I ask you is when is the EPA going to clean that mess up? And if the DOE is not responsible for handling that and the EPA doesn't step into it, how much trust do you think you're getting from the public that you can handle this Yucca Mountain problem, I think, is my point.

The other thing that the EPA, I think, needs to get into is this so-called waste is a really valuable resource if properly handled by standard technology. It'll generate seventy-two billion dollars worth of power at a very nominal cost. And the EPA has a rule that they use in the other areas called best available technology. And I would like

to see that applied in this case. That's the end of Yucca Mountain and we use the waste to make power. And the people that own the power companies can make a few billion dollars. Congress won't like it because they've already stole the fifty-five million the power companies gave them for this project. And I guess they'll probably steal some more before it's all over. And my point there is these are very powerful people. The people that own the power companies probably make in the neighborhood of a trillion dollars a year. They can buy any government. They can push anybody around they feel like pushing around. And so it's not a matter of you can get in their face and straighten them out. It is a matter, though, that if you approach them with a reasonable proposition, that they can make this seventy-two billion dollars and stop Congress from stealing the another fifty-five million or whatever, that they're reasonable people and I think they'll listen to it.

I have a few more things that I'd like to say, but I'd like to say them at a later time.

MR. PAGE: Okay.

Is there anybody else in the audience that's arrived that would like to speak?

MR. JENNINGS: My name is Geoff Jennings. I represent Columbia University. And in seventy-three days, eight hours, thirty-four minutes and sixteen seconds I will achieve the status of being a ten-decade man in having been alive in part or all of ten decades.

So I was with Doctor John R. Dunning when all this was started. So I was a brat among a handful of students when Doctor Dunning said that there were scientists all over the country who would give their eye teeth to be in our shoes. I certainly am pleased to be here in this crowd of authority, but I would like to defer my remarks until I get brought up to date. Whereas I have been in the amen corner for Sally Devlin and Grant Hudow at the test site and Yucca Mountain, I would like to hear what Mary Manning has been saying in testimony she's given. Might I ask her to bring me up to date so that my remarks can be appropriately targeted, please?

MS. MANNING: First of all, I'm Mary Manning, and I'm a reporter for the Las Vegas Sun Newspaper. And I'm here to observe the meeting. And I would be happy to bring Mr. Jennings up to date between public comment periods.

MR. PAGE: Great. Thank you.

MR. JENNINGS: She got out of that spot beautifully.

I would like to at the end of the period go over some of the materials to touch upon some various points. But I would like to say that the biggest problem seems to be that we are thinking in terms of ten thousand years. I think Ms. Manning is aware that it's cut it down by some proposal plan to some five hundred years. But if we can recognize the significance of the problem in two directions; one, that it's a matter of control, not, as Mr. Hudow said, by some big local conservative barons, but it's a manner of civilian control of the military and civilian control of building it themselves.

We have bureaucrats here from Washington, D.C., and I would like to give them an approach that is a matter of recognizing the boss of the situation in the terms of jurors, litigants, the facilitators that also ran for election for public office, and customers and labor force and finally the kids themselves. We are looking to the future, and they are a real concern and should be the inlet connection.

I am not only representing Columbia University officially but as an individual member of

the Pahrump Town Board Advisory Committee of Parks and actually relaxation and Recreation. We have come upon the interest of the kids. I have picked up some twenty in my area which is closest to the test site as a buffer. They not only fly their airplanes low to the ground, but they have a ping pong ball or a golf ball or a football and a baseball, a softball, and up to twenty -- and I have a bag there and I could spread them here in front of the map of the United States of America.

Sally was saying that I would introduce something a little unusual as far as ethics. I could spread out by the map of the country these twenty play instruments, and we have one of them, and all over the country there are all of these nuclear waste situations waiting for something to be done, if it can be done. And our motto in the State of Nevada is all for our country. Now, we have among us, saying some twenty, we have one ping pong ball or a tennis ball representing our community. And we are being asked to help out and share this pressing burden which is all over the place. And I am very happy to have this group protective of the public and environmental sense, sort of act as a salutary force on what some gung ho scientists may be projecting,

including some of the professors who have advanced in academia to a point where they're out of touch, actually, with their students. And so I think that the young people, we can shred our degrees, and my two from Columbia included, and enlist them in a discussion of truth.

I made one statement at our luncheon at Friends University in Wichita Kansas that actually I graduated college at the Brooklyn Friends School. And that's a matter in viewing that we're so glad that this cross-section of opinion is being offered here and the people representing me like Janet Toy, not only the artistry of the painting, but also the performing arts. I first met her at when we were visiting the test site at the nuclear repository.

And I would like to salute the presentation made by Mr. Page on behalf of the four at the head table, so to speak. It sounded good to my ears. And I will say, "Go to it. Go get 'em. And do the best you can for us."

So until I review some of my press stuff at a later time here, I would like to conclude to you all at this time. Thank you.

MR. PAGE: Thank you very much.

Is there anybody else in the audience that

would like to address the panel right now?

We need a break. Why don't we adjourn for about a ten-minute break and we'll be back. Thank you.

(Short recess.)

MR. PAGE: If we could, I guess, check -- are there any new folks that have signed up?

So nobody new has come in since we took the break.

As I promised earlier, what I would like to do is give folks that would like to elaborate more than they were able to cover, we'll allow them to do that at this point. And with the few number of folks that are here, we can go back over and call out all the names. If you would just indicate that you would like to speak again by raising your hand, and then please reintroduce yourself so the court reporter knows again who you are and what organization you are from, that would be helpful. Who would like to give another say here?

MR. HUDOW: I'm Grant Hudow, H-u-d-o-w. And I'm with ENRAP from UNLV and the DOE.

What I want to expand on a little bit is the Nelson limits. I mentioned that the DOE did not find them at all. The NRC found some reference to

the Nelson limits, and they only found application for them, which probably doesn't apply to the canister problem for Yucca Mountain. The Nelson limits are a broad set of information that covers such things as stress cracking, all kinds of reactions that cause the stainless steel and other metals to turn into a sponge, all of these kind of things. They're lots of them. I know a few off the top of my head. But for that specific canister, somebody needs to dig into it and learn about it and research it. And I would guess that you might want to have somebody that has industrial experience actually do that work for you.

One of the problems in this country is that two-thirds of the scientists and engineers in the country work for the government or for government contracts. And that includes professors. So they're not exposed on a regular, routine basis to the can do, got a lot of money involved, gotta get this done in the industry. And the professors sometimes do some consulting. So every once in a while you run into a professor that knows about some of the different knowledge. And occasionally you find one that is actually very good in one area because he's done a project on them. But most of the people that

we rely on in industry are turn-around specialists. Lee Iacocca comes to mind. That caliber of a person -- this is a world-class project, and we need our very best people to be involved in it.

The other thing I wanted to ask about, as I understand it, the fifteen -- or in the case of ENRAP, the 15 millirem limit, we went through the detail of that, and the basic fundamental idea behind it was that if radiation is going to go by you and you're going to get exposed, that the twenty-five millirems will only cause one cancer latent cancer death per million people. And that, at best, it's an extrapolation. You can't measure the effect of twenty-five millirems on the aggregate to the background count of three hundred, four hundred, whatever it is in the area. But there's no way you can measure that directly. So they've used a system that the pharmaceutical uses, that if you have a death caused at this value and somebody gets really sick at this value, you can draw it back down to where you know the mechanism and it's going to cause some problems back down here. You can only guess at that. So there's a lot of scientific controversy over the whole thing. In other words, the one latent cancer death per million is not set in concrete.

It's a wild guess. And probably the only thing we know for sure about it is that it's wrong. But even so, that's what we're using and pretty well worldwide, I think. Within this one latent cancer death per million, the teenagers from twelve to fifteen, seventeen, someplace along in there, actually have four to five latent cancer deaths per million if they're exposed to twenty-five millirems. And older people, seventy years old, they have no latent cancer deaths. They don't live long enough to have a latent cancer death.

Now, what I wanted to know is are the ingested radioactive standards based on the same one latent cancer death per million population? And I noticed that drinking water standards are much lower than just the exposure standards. So I don't know about the air standards. If you ingest that into your lungs, typically it would not stay there. The cilia would remove it. So you'd have exposure for a while, and then it would be removed. Where if you drink it, it's probably going to stay in your system. And if it is one latent cancer death per million people, if that's the standard that all this is based on, why is the DOE, then, proposing that Yucca Mountain, that they cause one in ten thousand

latent cancer deaths? Why are they saying that's acceptable? And I think that's in writing and in their various paperwork. And I'd like to know if the EPA backs them on that or if the one latent cancer death, is that a law or is that something that somebody just made up and discarded it whenever you feel like it? I'd like to know what the story is there.

MR. PAGE: Thank you.

MS. DEVLIN: I'm referring, again, to the five-pound book. This was the only book I have ever seen of its size talking about storage in foreign countries on their handling of the waste. And I'm going to go down the list because it's eleven countries. This is the first time I have seen this.

And I'm sorry. I'm Sally Devlin from Pahrump.

And this is doing underground research, the burial of high-level waste. And number one is Sweden. And prefacing this article on the eleven countries is there are no international standards. Numero uno, and remember that, no international standard. The second is Belgium, and they have around twenty-five hundred metric tons. Canada has nothing. They have thirty-four thousand metric

tons. Sweden phases out high-level waste, nuclear power plants. By 2010 will have eight thousand metric tons. Now, France, and I was using fancy French and I said (Speaking in French), which means people that fool around but know everything. And that's my opinion of the French. They do know everything. They won't allow in their dictionaries anything that is anglicized. So they are quite unique. And they certainly don't have anything and nothing is available. What they're doing with their storage is very nebulous. They won't mention a thing. Germany has nine thousand, and they are going to do some things. But mostly they have containerization for low-level waste. Sweden does too. Japan has no standards, and they are looking for funds and so forth for waste disposal. And they have about twenty thousand metric tons by the year 2000. These are projected figures. Spain has dry casks, as do most of the these countries, as do we, and vaults and liquid storage, which we have, too. Switzerland, we don't -- I think their entire country is hollow and God knows what they have in there, eighteen hundred metric tons. UK, and they have thirty thousand metric tons. And from their magnox reactors and they have been reprocessing. So

they have it down to four thousand cubic liters -- I have to use the different terms -- of high-level waste for storage. And they expect to have sixty thousand metric tons of septic nuclear fuel which, again, they want to park in the North Sea and dump it, from a home into the North Sea. And I must tell you, I was at this meeting. Also China was there. And no Russians. But China and I got along beautifully, and he invited me to go to the desert where they had the earthquake, which is where they are burying their high-level waste.

So what we're saying, "Thank you." And I sincerely thank you again, because this is the first time I have ever in all these years seen anything about foreign countries and what they're not doing. So, again, this makes the United States of America the pioneer in this. And since you're dealing with foreign countries, you do not have the values that the United States of America has, as to human values. Some of them are dictators, what have you. Some of them -- for example, Belgium and the Netherlands are going to use wind power. Belgium and Denmark are going to have fifty percent wind power -- fifty percent. So they're going to alternative fuel, as we can do. But I thought this was important

to bring to the public, since you're the only ones that were smart were enough to bring it up.

We are not going to have one repository, but two that costs fifty billion dollars. The canister is ten, eleven to twenty to twenty-two. Canisters will be a hundred and twenty billion dollars. Because these things cost three hundred and fifty to five hundred thousand apiece. Can you afford it?

Now, what are we looking at in the -- we're finding what would have to go into the repository; U-235, 238, 239, actinides, and so on. And the public don't have vaguest notion about what I just said. And these will be coming from all over the country. So we're talking about all this waste coming here. Our nonexistent highways and railroad trains would be a hundred feet long by ten by twelve. It is absurd. The trucks -- eighty-two thousand pounds is allowed in Nevada. And these trucks are a hundred and twenty tons. The canister, from what I have seen, is a hundred and twenty-five thousand pounds. So they way exceed anything that you could possibly have. And, as I said at the DOE conference, I think it would be wonderful if they'd spend a hundred billion dollars upgrading our roads

and our railroads.

But the one other thing I looked into, and I am no expert on this, but I'm trying to learn, is about computer modeling. And I understand that our railroads run on computers and so do our trucking companies. And if you have an accident here and you push the button, it goes to the State of origin. Now, how can you possibly have trucks going on any highways, fifteen thousand to thirty miles an hour or trains doing the same thing without an accident? And this is not talked about either. I think it's of major importance.

But I think -- let me get back to the international subject, and that is that we would be the pioneers. And I think everybody is looking around seeing what kind of mess we get into, and if we blow ourselves up, of course, I think they would be very happy if we did.

The other word, again, is acceptable uncertainty, and that's from yours. And, of course, that's assumed uncertainty. You cannot use that terminology with me.

One of the most important things is the water in Death Valley and Furnace Creek Ranch, in particular. That's mentioned that the water will go

down there. You cannot kill our produce. And you cannot kill Death Valley. That's absolutely forbidden.

And the other thing is the major distribution to dissolve the material and the ion exchange is very accommodated and the precipitants that will come out of that needs to be clarified. I just said something I'm sure most of the people don't understand, but this is in your report. I understand it because I went to school to learn about all that stuff. This must be made in English. And you're acronyms are well glossaried. But, again, it's got to be repetitive so that when we use these acronyms, people do understand them. And the DOE report, there are twenty-three pages of them. Your Federal Register was just wonderful. That does help the public.

So, anyway, remember my thoughts and remember we are pioneers on this. And the world is looking at us. And we can be reprehensible and just go ahead and do it and dump stuff in the desert like they might be doing elsewhere in other deserts. But, again, what are we doing for future generations? And I'm talking about cancers. And that doesn't show up right away, but it will in future generations. So

thank you, again.

MR. PAGE: Thank you.

Mr. Jennings?

MR. JENNINGS: Doctor John R. Dunning at the start of the atomic age, which was obtained from the place in West Point and which used the movement of the particles and it explains, for example, going to the Brooklyn Museum of Arts and Sciences. He would take with him a scope which showed a waving line, and that seemed to be significant to what he had to say to -- that the waving could transmit all the contents of the New York's Public Library over to Paris just on the impulses in the line.

In the emphasis of youth, I've been a member of the National Press Association which was founded some hundred and forty years ago. And I was a toastmaster in 1977 in Kansas City in connection with the effort to allow personally (inaudible) to inject itself in the public scene.

Now, one of the California universities has reported that they have five hundred thousand periodicals, and they made a big economy move and they dropped off two hundred thousand of them. But one of the major things has been the use of personal letters and diaries and personal contacts with

people. And one of the aspects of journalism is the use of personal names as vitalizing the paper and the contents is pushed greatly. And it is reflected in what I'm now about to say with regard to the six colors.

The Dewey decimal classification, library classification of all knowledge and goes to the integer zero, one, two, three, four, five, six, seven, eight, nine, ten. Now, that can be reduced to six, and it can be made functionally relevant and color coded to reading; the eye; and hearing, the ear; and speaking, the mouth; and holding, displacing my torso, the body part, and then using the feet and the hands in their proper connections. Thus, we have on red, we have reading and family and art; and then the sepia, and call it the education; and then the gold, for writing.

So the Pittsburgh Pirates is gold and black lines as in their baseball cap. And then we go to green for entertainment and blue for health and building, and then finally purple for finance and for traveling.

Now, how this comes out, there is a game. We can have a couple. And couples are good on the games. And there can be three tiers. There can be

youngsters. And when we actually do pay a lot of attention to, and we should do even more insofar as our projections of the future of such important decisions as this -- but, of course, of managers, there should be a corporate recognition submitted so that CEOs should be as they do in talk shows, have the feminine where they're getting more and more on the board of directors. But the companies should be recognized as having perhaps a male and a female headship or whatever else they happen to be.

What I'm eluding to is these metals here, the spectrum is of importance, even in the consideration of what we have here, the technical and mechanical aspects of life.

And I have, over the years, which would parallel the Readers Digest and my personal journal with my wife and myself, Pat and Geoff, the voice of American youth --

MR. PAGE: Excuse me. Mr. Jennings, please, you're covering a lot of subjects there. And we're trying to relate what you're saying to the Yucca Mountain experience. So if you could please try to simply do that, that would be appreciated.

MR. JENNINGS: Let me talk about it in this way. Pat and I have nineteen children and

decendents, and we're very much interested in the future and what happens. And they're also decendents of Thomas Jefferson's mother. And so what I say is that science is the matter of electricity which is represented by this Manhattan Project II. And if we are aware of the greater possibilities, some of the troubles that percolate up are dissipated.

And so on the cue from Sally, I think that I will flip over some of my pages that have accumulated which have so much significance for me, and I will stand on my remarks. And I will ask for a little bit of thinking about what I've said. And I'll leave it up to you to relating, as I think it does have a relation, to the subject in hand. Thank you very much.

MR. PAGE: Thank you very much.

Is there anybody else that would like to make a statement or elaborate on an earlier statement?

MS. DEVLIN: Well, I'd like you to do more talking and tell us more about EPA and your role in this. And I think it's terribly confusing. And we want to hear from you and your associates because you're all different. I'd like to hear from each one of you.

MR. PAGE: Let me say that, again, just to remind folks that we're here to hear from you. The questions that you raised have been some good questions. We will respond in writing as part of the record. I think that what we can do now is just go off the record and answer questions about the process, what's coming up.

I think we're comfortable if there are no questions or comments, going into an informal session.

We can go off the record now.

(Informal discussion held off the record.)

MS. SELBACH: What I wanted to make a comment is that we have heard from people of Yucca Mountain and this development for many years. You probably have better figures than I have memory. And so some of the things that came in when they began to talk about it and try to talk to us and find out how we feel was what they were going to do to help our communities. And we find -- I find that really, basically, there has been nothing, nothing done to help within our communities. You look at our roads, we need some money for our roads very badly. You've probably noticed a couple of chuckholes along the way and noticed they pick up a lot of dust and a few

things like this. And they was supposed to help with our tax base at one time. And all these things that they promised in the beginning has not resulted. And we would like -- I would like to know, and I'm sure other people of the valley would too, if this goes through, and I might not be aware of all the meetings you have, and especially when you have them in the east coast and different places that don't really relate to what we have here, we would like to know what kind of help you're going to give our communities to develop things. We have to lose a lot of things. And some of the things I'm referring to losing is maybe property values, maybe some development because there will be people who will say, "I don't want to live there. You're too close to Yucca Mountain. I don't want to develop out there. You can't tell what the government's going to do to the area. They might come in and all move us out and take us over."

We had an incident in Nevada up in the Northern area called Dixie Valley. They used it used as a bombing range not far from the valley. The valley was very well kept. It was a farming community and a very nice place to live. And the other side of that, they came in and took over all

the ranches, forcing all of them to sell out. So we look back and we see that, and we wonder if this could happen again. And so when these things happen, you look at your property values drop and people trying to get out from underneath it because something drastic comes along. And so I would hope that Yucca Mountain, if this goes in, that we would be able to have some kind of a protection and something to help build our communities and help our property values so that we don't lose because we're really into the shadow of Yucca Mountain.

And as Ralph McCracken said and maybe someone else maybe, you could probably come in here and pay off everybody and buy the land, clear us all out, and you'd be better off financially than what would be, in some cases, fighting and trying to work and get this through as far our valley goes and other areas as well. And those things were also promised to those communities probably up in the further north of the test site in that area. So this is what I'm addressing. We definitely need some assistance out here. We need roads. We need park systems. All these things, I know you guys can help develop these things. So, anyway, that's what I would like to address. Thank you very much.

(Discussion held off the record.)

MR. PAGE: Why don't we adjourn now. We will be here this evening taking comments.

(Short recess.)

MR. PAGE: We want to reopen the hearing. I recognize a lot of faces. There's somebody in here that signed up to testify, so we want to go ahead and officially open the hearing.

What we'll do is just ask the speakers at this point to see of you can state your remarks in about ten minutes or so, give or take some. And then if there are other speakers in the room that do want to talk, we'll let them do that. If after we go through a round and we find that there are folks that want to come up and address the panel again, we'll allow for that.

We're missing one panel member who's on a phone call. She'll be up here momentarily. Why don't we just go ahead and start. People have evening commitments, family, that kind of thing, so we'll go ahead and get started.

Ken Garey is signed up to testify this evening. So why don't we go ahead and start with Mr. Garey.

And if you'll spell your name, please, for

the court reporter?

MR. GAREY: I'll give her a written statement.

MR. PAGE: Very good. Thank you.

MR. GAREY: Good evening. My name is Ken Garey, Post Office Box 1, Amargosa Valley. Good evening. There have been four generations of Gareys. We've lived here since 1963. During much of that time much of the underground nuclear testing was accomplished at the Nevada Test Site as well as testing associated with the Nuclear Rocket Demonstration Program at the nearby Nuclear Rocket Demonstration Site.

My first memory of atomic subjects, as it was called then, was a report on radium in 1938 concerning Mdm. Curie for which I received an A for from the science teacher who admitted she didn't fully understand the molecular theory. That's how I got the A. The next program was the Army's nuclear warfare training program and an assignment at the Trinity Site for post-shot characterization program. Since then I have worked at nuclear power plants. The previously mentioned nuclear rocket program and spent fuel demonstration program which involved actual power plant fuel assemblies -- this doesn't

make sense -- that will compose the majority of the waste at the proposed repository at Yucca Mountain.

During the years of working in the nuclear industry for numerous contractors and agencies, my nuclear body burden or the amount of radiation that my body has been exposed to has been monitored to keep the exposure within limits as prescribed by the EPA and other agencies. Similarly, the EPA has been the agency to monitor public and document data pertaining to nuclear testing and research programs. Some people remember the film badges that volunteers and others that were posted at public buildings and fence posts in this area. So some thirteen community monitoring stations were located in populated areas adjacent to the Nevada Test Site. Numerous families participated in the whole body count monitoring to document the human body uptake of radioisotopes for background data analysis and comparison to other areas.

It's my opinion that the EPA is the natural agency to establish exposure standards for the public, and that agency, through its vast experience and real time data is the best organization to establish this important standard for this program. The vast data bank is far superior to

modeling or other programs.

My only other concern is that average exposure rates may permit persons living in this area, which has a very low natural background, to receive a larger dose and still remain within the exposure limit.

Thank you.

MR. PAGE: Thank you.

Is there anybody else that wants to make a statement at this time?

MR. MURPHY: Good evening. My name is Mal Murphy, and I am appearing tonight on behalf of Les Bradshaw who is the manager of Nye County Department of Natural Resources and Federal Facilities and is also the manager of our Nye County project office. Unfortunately, Mr. Bradshaw was kept away on other business tonight, the follow-up resulting from the commissioners' meeting in Pahrump tonight, so he can't be with us. And the remarks I'll deliver tonight are basically Mr. Bradshaw's remarks. And they will, of course, be amplified quite extensively, I think, when we file our formal written comments for the record prior to the November 26 deadline.

Nye County, as you are probably aware, is neutral with respect to Yucca Mountain. We neither

support nor oppose the repository, and never have. But the county exercises its oversight responsibilities in order to help ensure that the final decision on licensing Yucca Mountain or its ability before that is based on thorough and complete site characterization and conservative principles of science so that the interests of residents of the entire county, but particularly the people here tonight and the residents of Amargosa Valley who are most directly affected and will be most directly affected, are taken into account and fully protected.

In that respect, we also think that all federal decision makers, the EPA, the Department of Energy, the NRC, and everyone else needs to be cognizant of and fully appreciate in their decision making the accumulative impact of the residents of this area have received in the past or are receiving now and will receive in the future because of the activities of the test site. Our public has already been put at some risk because of the activities undertaken by the federal government.

Recent observations, for example, showed that there will be some -- has been some contamination from those activities migrating or will

migrate off the site in the ground water, thus, potentially, at least, exposing some of our residents to radioactivity above the natural background. Now the federal government is proposing to transfer the risk from commercial spent fuel management from other locations in the country to Nye County. And we emphasize that that is not a solution to the spent fuel problem. It is a transfer of the risk to this county and not a -- it's a solution for some people, but not a solution for the people here in Nye County. This is not a risk that Nye County residents voluntarily undertake, rather, is one that will if Yucca Mountain is declared suitable to be licensed to be involuntarily imposed upon the residents of this county. And under those circumstances, it is the county commissioner's policy that the residents of this county be exposed to no additional radiologic burden of Yucca Mountain.

Now, no additional radiologic burden with respect to the protection standard, of course, means essentially zero dose. And that is our county's policy, even though that is not what the EPA proposes in Part 197. We urge you to go back and reexamine the proposal in light of that stated policy.

However, we recognize that we have in

front of us two essentially competing proposals. You have the 25 millirem limitation proposed by the NRC in its Part 63, and fifteen millirems limitation dose for which you are folks are proposing in Part 197. Of those two, and, again, the qualification that no additional radiological burden from the policy, of those two we, of course, strongly prefer 15 millirem, obviously, because 15 is closer to zero than 25.

We also, with respect to the regulatory period, our own work in our own independent scientific investigation program leads us to appreciate the uncertainties or impossibility of accurately predicting doses beyond ten thousand years. So, for that reason, we support the ten thousand year regulatory period. However, we strongly support the requirement that DOE predicts those up to the peak dose period and out to, if you will, the period of geological stability and put that prediction in its Environmental Impact Statement so that the public can and all federal decision makers are fully informed as to the ultimate level and very, very long range as well. I think to expect the Department of Energy proposing to do that, in any case, as far as I know, they've always planned on at least calculating and predicting the peak dose in their performance

assessment and in their Environmental Impact Statements.

We also support strongly, as you might imagine, the application of the standard to a hypothetical Reasonably Maximally Exposed Individual. We have traditionally in this respect supported the critical group approach, but our reading of the supplemental information which accompanies proposed Part 197, it doesn't conclude that the RMEI located at the point north of Lathrop Wells is probably a more conservative approach in that protecting that individual provides a little additional protection to the critical group who are obviously the folks, many of whom are in this room and were here this afternoon, from the Amargosa Valley. So we support that approach.

With respect to the human intrusion standard, it's always been Nye County's position that arguing, if you will, the probabilities of any intrusion into the repository was essentially futile; and, therefore it has always been our position that the Department of Energy should assume at least one intrusion, presume a successful intrusion into the repository and simply analyze the consequences of that intrusion. And as a result of that -- and that

incidentally, as you know, is essentially the position adopted by the National Academy of Science. For that reason, of course, we support your approach to the human intrusion standard as well. In addition, it seems to us that the assumptions the DOE and NRC are to make in analyzing the potential human intrusion are reasonable.

Perhaps that portion or that aspect of 197 which gives Nye County the greatest comfort is your insistence on adhering to additional ground water protection standards. As we have always said in the past, regardless of whatever scientific merits there are, we simply can see no reasonable or credible public policy defense to providing people of this valley and the Nye County residents any less protection of their ground water than provided by the country to the residents in Southern New Mexico, for example, or anywhere else in the country. So we understand the science behind it and we appreciate that. But as long as additional ground water protection is required in other projects and provided to other residents in other locations in the country to us there is absolutely no justification whatsoever to not providing the same kind of protection to the people here in Amargosa Valley. And for that reason,

we commend you for including additional ground water protection standards in your proposal. And we agree in that regard. We agree with the use of the standard and compliance with the maximum contaminant level. We support or agree with the proposed representative volume of ground water that's to be used to measure compliance with the MCL. We think that's reasonable.

There are, I'm sure, some arguments that can be made for at least two of the alternative representative volumes of for ground water proposals. But we think the preferred alternative or the one proposed is reasonable. We don't think -- we see no sound reason for the third alternative. With respect to the four alternative points of compliance with the MCL, it should come as no surprise we prefer five kilometers. That is obviously the most conservative approach, is the one that gets us closest to zero, if you will. And with that qualification, the five kilometer boundary as our preference, our sequential preference is obvious also. So the eighteen to the five kilometers plus the NTS boundary would be our second choice; the intersection, third choice.

As you probably know, we have our own drilling program in Nye County which we call the

Early Warning Drilling Program. One of the reasons for that drilling program is to provide the ability in the future to give the residents of the Amargosa Valley some early warning in the case of any conceivable escape of contaminants. And we're in the process -- we will be getting in the next two weeks phase two of that program. Those wells are all located along in sort of an arc north of U.S. 95. Those wells theoretically are going to be able to give folks some warning in the future. Making the point of compliance in southern Amargosa Valley where the population is, where farming activity takes place, provides no early warning whatsoever, and we, therefore, can see no reason for that and we strongly oppose that as a point of compliance.

We do have some concerns about some aspects of Part 197, which we see as primarily implementation, rather than standard setting. And I don't want to take your time up with that tonight, with one exception. Dave will talk about that in our follow-up comments.

But there's one that gives us particular cause of concern because that is within the proposed definition of the term "disposal" in 197.12. The second sentence reads as follows, "Disposal of

radioactive material in Yucca Mountain disposal system begins when all of the ramps and other openings into the Yucca Mountain repository are backfilled and sealed." That sentence, in our view, is totally unnecessary for the definition of the term "disposal," and would actually impede or may actually impede, rather than enhance the safe isolation of nuclear waste.

We've got, in Nye County, our independent investigation which has been widely reported to the NRC, the Department of Energy, et cetera, indicates that the longer you allow the repository to remain unsealed, I don't want to use -- I hate to use the word "open," but unsealed and unfilled, the longer you maintain natural ventilation in the repository, the better the performance that you're going to get for that repository in the short and long term, simply because you're going to maintain it in a cooler and dryer state for a longer period of time. And, obviously, the dryer you maintain it, the less chance there is of water coming into contact with the waste package, which is the process that starts the ultimate breakdown of that disposal, that container, and ultimate escape of some contamination. So the longer you delay the first contact with water, the

first contact with the waste package, in our view at least, the greater performance you're likely to get out of the repository. And we simply urge you to delete the second sentence in the definition of the word "disposal" to allow DOE to maintain that kind of flexibility to keep the repository ventilated for as long as possible and still call it disposal, if you will. Whether it's a hundred years, three hundred years, or some period longer than three hundred years, it seems to us make no sense to say that you have disposed of it, since you haven't backfilled the repository, if, in fact, and the evidence is not fully in on that yet on our own preliminaries, but if, in fact, it's demonstrated that if ventilated long term, to be ventilated in the repository is safest way to dispose of waste, then it seems to us to make no sense, as a matter of national policy, to preclude the Department of Energy in the standards from following that path.

And, again, based on our stated policy of zero doses, anything, even though we remain strongly neutral on whether or not Yucca Mountain should ultimately be selected as a repository, if it is, it should be designed and operated in absolutely the safest and most scientific way possible. So we urge

simply that you at least drop that second sentence in the definition of the term "disposal" for that reason.

And, again, we will, as I said, file written comments. We appreciate you coming out here to Amargosa Valley and visiting with the residents out here this afternoon and this evening. I apologize again that our government leaders were unable to be with you, but you just happened to select the day when we had the county commissioners' meeting. We certainly appreciate your time and thank you.

MR. PAGE: Mr. Murphy, you indicated you might know at this time whether the commissioners will make it tonight or not?

MR. MURPHY: It doesn't appear they are going to be able to get here. That's the last report I got.

MR. PAGE: Thank you.

Anybody else -- anybody else have a statement or would like to make comments to the panel at this time? Is there anybody who spoke earlier in the day who would like to elaborate on their statements and needs extra time?

All right. We'll go into another

temporary recess. And what we'll do is just wait until somebody comes in who is ready to speak and we'll just gather again. Thank you.

(Short recess.)

MR. PAGE: We're back in order. I want to make sure that there's nobody in the room that has another statement to make. It's been over an hour since the last speaker appeared, so I guess this will be the last call for the this evening. No speakers.

Thank you very much. We will be in Las Vegas tomorrow. We appreciate people coming in today from the community. And the hearing will adjourn at this time. Thank you.

(Hearing adjourned at 7:55, p.m.)

State of Michigan)
County of Wayne)

CERTIFICATE OF NOTARY PUBLIC

I certify that this transcript is a complete, true and correct record of the testimony given by the Witnesses in the above-entitled matter.

I also certify that I am not a relative or employee of or an attorney for a party; or a relative or employee of an attorney for a party; or financially interested in the action.

Karen L. Hendley, CER-5683
Notary Public, Wayne County, Michigan
My commission expires: November 3, 2003